

## Refine Search

### Search Results -

Term	Documents
@PD	37922541
(18 AND (@PD > "20061027")).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	0
(L18 AND @PD > 20061027).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	0

Database:

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 Derwent World Patents Index  
 IBM Technical Disclosure Bulletins

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### Search History

DATE: Friday, October 27, 2006    [Purge Queries](#)    [Printable Copy](#)    [Create Case](#)

**Set**  
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**Count**    **Set**  
                  **Name**  
                  result  
                  set

DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=ADJ

<u>L19</u>	L18 and @pd > 20061027	0	<u>L19</u>
<u>L18</u>	L17 and L15	10	<u>L18</u>
<u>L17</u>	L14 and L13	11163	<u>L17</u>
<u>L16</u>	L15 and @pd > 20061027	0	<u>L16</u>
<u>L15</u>	L14 and (balanc\$4 near cable)	19	<u>L15</u>
<u>L14</u>	(magnetic adj resonance or mri or nmr)	238137	<u>L14</u>
<u>L13</u>	(324/300  324/301  324/302  324/303  324/304  324/305  324/306  324/307  324/308  324/309  324/310  324/311  324/312  324/313  324/314  324/315  324/316  324/317  324/318  324/319  324/320  324/321  324/322 or 600/117	14746	<u>L13</u>

	600/407  600/408  600/409  600/410  600/411  600/412  600/413  600/414  600/415  600/416  600/417  600/418  600/419  600/420  600/421  600/422  600/423  600/424).ccls.		
<u>L12</u>	L11 and (balanc\$4 near cable)	19	<u>L12</u>
<u>L11</u>	(magnetic adj resonance or mri or nmr)	238137	<u>L11</u>
	(324/300  324/301  324/302  324/303  324/304  324/305  324/306  324/307  324/308  324/309  324/310  324/311  324/312  324/313  324/314  324/315  324/316  324/317  324/318  324/319  324/320  324/321  324/322 or 600/117  600/407  600/408  600/409  600/410  600/411  600/412  600/413  600/414  600/415  600/416  600/417  600/418  600/419  600/420  600/421  600/422  600/423  600/424).ccls.	14746	<u>L10</u>
<u>L10</u>			
<u>L9</u>	L8 and L6	10	<u>L9</u>
<u>L8</u>	L5 and L4	11163	<u>L8</u>
<u>L7</u>	L6 and @pd > 20061027	0	<u>L7</u>
<u>L6</u>	L5 and (balanc\$4 near cable)	19	<u>L6</u>
<u>L5</u>	(magnetic adj resonance or mri or nmr)	238137	<u>L5</u>
	(324/300  324/301  324/302  324/303  324/304  324/305  324/306  324/307  324/308  324/309  324/310  324/311  324/312  324/313  324/314  324/315  324/316  324/317  324/318  324/319  324/320  324/321  324/322 or 600/117  600/407  600/408  600/409  600/410  600/411  600/412  600/413  600/414  600/415  600/416  600/417  600/418  600/419  600/420  600/421  600/422  600/423  600/424).ccls.	14746	<u>L4</u>
<u>L4</u>			
<u>L3</u>	L2 and (balanc\$4 near cable)	19	<u>L3</u>
<u>L2</u>	(magnetic adj resonance or mri or nmr)	238137	<u>L2</u>
<u>L1</u>	(324/300-322 or 600/117,407-424).ccls.	14746	<u>L1</u>

END OF SEARCH HISTORY

## Create A Case

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<input checked="" type="checkbox"/>	PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD	L8 and L6	YES ADJ		L8
<input checked="" type="checkbox"/>	PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD		YES ADJ		L9

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## Hit List

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**Search Results** - Record(s) 1 through 10 of 10 returned.

☐ 1. Document ID: US 6766185 B2      Relevance Rank: 82

L9: Entry 6 of 10

File: USPT

Jul 20, 2004

US-PAT-NO: 6766185

DOCUMENT-IDENTIFIER: US 6766185 B2

TITLE: Transmission line techniques for MRI catheter coil miniaturization and tuning

DATE-ISSUED: July 20, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Scott; Greig C.	Palo Alto	CA		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE	CODE
The Board of Trustees of the Leland Stanford Junior University	Palo Alto	CA				02

APPL-NO: 09/863797      [PALM]

DATE FILED: May 22, 2001

PARENT-CASE:

CROSS-REFERENCE TO RELATED APPLICATIONS This application is cross-referenced to and claims priority from U.S. Provisional application 60/206,458 filed May 22, 2000, which is hereby incorporated by reference.

INT-CL-ISSUED: [07] A61B 5/055

INT-CL-CURRENT:

TYPE	IPC	DATE
CIPN	<u>G01 R 33/32</u>	20060101
CIPN	<u>G01 R 33/36</u>	20060101
CIPS	<u>G01 R 33/28</u>	20060101
CIPN	<u>A61 B 5/055</u>	20060101

US-CL-ISSUED: 600/410; 600/423, 324/318, 324/322, 29/828

US-CL-CURRENT: 600/410; 29/828, 324/318, 324/322, 600/423

FIELD-OF-CLASSIFICATION-SEARCH: 600/422, 600/423, 600/410, 324/318, 324/322,

29/825, 29/828, 29/832

See application file for complete search history.

PRIOR-ART-DISCLOSED:

## U.S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<u>4881034</u>	November 1989	Kaufman et al.	324/318
<u>5347221</u>	September 1994	Rubinson	324/318
<u>5432451</u>	July 1995	McGill et al.	324/322
<u>6263229</u>	July 2001	Atalar et al.	600/423
<u>6437569</u>	August 2002	Minkoff et al.	324/318

ART-UNIT: 3737

PRIMARY-EXAMINER: Smith; Ruth S.

ATTY-AGENT-FIRM: Lumen Intellectual Property Services, Inc.

## ABSTRACT:

A device and method with miniature and tunable MRI receiver coil for catheters is provided that can be used in minimally invasive procedures and intravascular imaging. An MRI receiver coil for catheter procedures is provided having an impedance matching element that includes at least one miniature transmission line cable which are interconnected to construct the impedance matching element. In a particular embodiment, the miniature transmission line cables are constructed to make an inductance matching element defining an inductance L. In another particular embodiment, the miniature transmission line cable is a capacitance matching element defining a capacitance C. The present invention provides a system and method that allows local fine-tuning with a higher signal-to-noise ratio. Transmission line cables also overcome the minimum size limits of fixed components. The shielded and balance techniques further reduce noise and improve safety.

34 Claims, 11 Drawing figures

Full	Title	Citation	Front	Review	Classification	Date	Reference		Claims	Index	Drawings
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☐ 2. Document ID: US 20020013525 A1 Relevance Rank: 82

L9: Entry 3 of 10

File: PGPB

Jan 31, 2002

PGPUB-DOCUMENT-NUMBER: 20020013525

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020013525 A1

TITLE: Transmission line techniques for MRI catheter coil miniaturization and tuning

ATTY-AGENT-FIRM: Della Penna; Michael A. Armstrong Teasdale LLP

## ABSTRACT:

A partially parallel acquisition RF coil array for imaging a human head includes at least a first, a second and a third loop coil adapted to be arranged circumambiently about the lower portion of the head; and at least a forth, a fifth and a sixth coil adapted to be conformably arranged about the summit of the head. A partially parallel acquisition RF coil array for imaging a human head includes at least a first, a second, a third and a fourth loop coil adapted to be arranged circumambiently about the lower portion of the head; and at least a first and a second Figure-8 or saddle coil adapted to be conformably arranged about the summit of the head.

20 Claims, 25 Drawing figures

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	FIGS	Drawings
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☐ 4. Document ID: US 6975115 B1      Relevance Rank: 82

L9: Entry 4 of 10

File: USPT

Dec 13, 2005

US-PAT-NO: 6975115

DOCUMENT-IDENTIFIER: US 6975115 B1

TITLE: Coil arrays for parallel imaging in magnetic resonance imaging

DATE-ISSUED: December 13, 2005

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fujita; Hiroyuki	Highland Heights	OH		
Chan; Pei H.	Aurora	OH		
Chu; Dashen	Hudson	OH		
Murphy-Boesch; Joseph	Aurora	OH		
Petropoulos; Labros S.	Solon	OH		
Zou; Mark Xueming	Aurora	OH		

## ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE	CODE
GE Medical Systems Global Technology Company, LLC	Waukesha	WI				02

APPL-NO: 10/164664      [PALM]

DATE FILED: June 7, 2002

## PARENT-CASE:

CROSS-REFERENCE TO RELATED APPLICATION This application claims the benefit of U.S. provisional patent application Ser. No. 60/296,885 filed Jun. 8, 2001.

J. Pelc, Magnetic Resonance in Medicine 45:1103-1111 (2001).

ART-UNIT: 2859

PRIMARY-EXAMINER: Shrivastav; Brij B.

ATTY-AGENT-FIRM: Horton, Esq.; Carl B. Armstrong Teasdale LLP

ABSTRACT:

A partially parallel acquisition RF coil array for imaging a sample includes at least a first, a second and a third coil adapted to be arranged circumambiently about the sample and to provide both contrast data and spatial phase encoding data.

20 Claims, 21 Drawing figures

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	DOC	Drawings
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☐ 5. Document ID: US 20040236209 A1      Relevance Rank: 82

L9: Entry 2 of 10

File: PGPB

Nov 25, 2004

PGPUB-DOCUMENT-NUMBER: 20040236209

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040236209 A1

TITLE: System and method of obtaining images and spectra of intracavity structures using 3.0 tesla magnetic resonance systems

PUBLICATION-DATE: November 25, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Misic, George J.	Allison Park	PA	US
Rhinehart, Edward J.	Monroeville	PA	US

APPL-NO: 10/483945      [PALM]

DATE FILED: January 15, 2004

RELATED-US-APPL-DATA:

Application is a non-provisional-of-provisional application 60/381727, filed May 16, 2002,

Application is a non-provisional-of-provisional application 60/429257, filed November 26, 2002,

PCT-DATA:

DATE-FILED	APPL-NO	PUB-NO	PUB-DATE	371-DATE	102(E)-DATE
Mar 13, 2003	PCT/US03/07774				

INT-CL-PUBLISHED: [07] A61B 5/055

## INT-CL-CURRENT:

TYPE	IPC	DATE
CIPS	<u>G01 R 33/32</u>	20060101
CIPS	<u>G01 R 33/36</u>	20060101
CIPS	<u>G01 R 33/28</u>	20060101

US-CL-PUBLISHED: 600/423

US-CL-CURRENT: 600/423

REPRESENTATIVE-FIGURES: 2

## ABSTRACT:

An MR system features an intracavity probe and associated interface device. The probe includes a shaft, a balloon at one end thereof, and a coil loop within the balloon. The loop has two drive capacitors and a tuning capacitor, all of which in series. A junction node between the drive capacitors serves as a ground for electrically balancing the loop. Diametrically opposite the node, the tuning capacitor enables the loop to resonate at the operating frequency of the MR system. The interface allows the MR system to couple the loop to a port of the MR system during a receive cycle thereof and decouple it from the port during a transmit cycle thereof. With its balloon inserted and inflated within a cavity of a patient, the probe allows the MR system to generate images and/or spectra of the region of interest using the MR signals received by the loop.

## CROSS-REFERENCE TO RELATED APPLICATION(S)

[0001] This application claims the benefit of U.S. Provisional Applications 60/429,257 and 60/381,727, titled System And Method Of Obtaining Images And Spectra Of Intracavity Structures Using 3.0 Tesla Magnetic Resonance Systems and 3.0 Tesla Endorectal Coil And Interface For Single Receiver And Phased Array MR Scanning Of The Prostate And Other Pelvic Anatomy, respectively, filed on Nov. 26, 2002, and May 16, 2002, respectively. These provisional applications have been assigned to the assignee of the invention disclosed below, and their teachings are incorporated into this document by reference.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWD	Drawings
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☐ 6. Document ID: US 20060164089 A1      Relevance Rank: 81

L9: Entry 1 of 10

File: PGPB

Jul 27, 2006

PGPUB-DOCUMENT-NUMBER: 20060164089

PGPUB-FILING-TYPE:

DOCUMENT-IDENTIFIER: US 20060164089 A1

TITLE: Magnetic resonance imaging receive circuit

PUBLICATION-DATE: July 27, 2006

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
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Gross; Patrick

London

GB

APPL-NO: 10/511957 [PALM]  
DATE FILED: April 29, 2003

## FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	DOC-ID	APPL-DATE
GB	0209756.6	2002GB-0209756.6	April 29, 2002

## PCT-DATA:

DATE-FILED	APPL-NO	PUB-NO	PUB-DATE	371-DATE
Apr 29, 2003	PCT/GB03/01892			Jul 19, 2005

## INT-CL-PUBLISHED:

TYPE	IPC	DATE	IPC-OLD
IPCP	G01V3/00	20060101	G01V003/00

## INT-CL-CURRENT:

TYPE	IPC	DATE
CIPP	<u>G01 V 3/00</u>	20060101

US-CL-PUBLISHED: 324/322

US-CL-CURRENT: 324/322

## ABSTRACT:

A magnetic resonance imaging receive circuit, for use e.g. within the body of a patient during an MR imaging procedure, includes a balanced MR coil (50) connected to balanced matching and decoupling circuitry (110, 120). Signal transfer passes along two micro-coaxial cables (52, 54) to signal combination circuitry (300) with common mode rejection. Signals then pass along a further coaxial cable (82), to a receiver. The coil (50) may be incorporated into an endoscope or catheter probe, so providing detailed MR imaging of the treatment area.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	Keywords	Drawings
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☐ 7. Document ID: US 5280248 A      Relevance Rank: 81

L9: Entry 8 of 10

File: USPT

Jan 18, 1994

US-PAT-NO: 5280248

DOCUMENT-IDENTIFIER: US 5280248 A

TITLE: Biplanar RF coil for magnetic resonance imaging systems

DATE-ISSUED: January 18, 1994

INVENTOR-INFORMATION:

ART-UNIT: 267

PRIMARY-EXAMINER: Arana; Louis

ATTY-AGENT-FIRM: Fay, Sharpe, Beall, Fagan, Minnich &amp; McKee

## ABSTRACT:

A superconducting magnet (10) generates a uniform, static magnetic field through a central bore (12) along its longitudinal or z-axis. A biplanar gradient coil assembly (44) is inserted into the bore to create gradients across the static magnetic field along orthogonal x, y, and z-axes. A biplanar radio frequency coil assembly (50, 80) is inserted into the bore for transmitting radio frequency signals into a subject and receiving magnetic resonance signals from the subject. The radio frequency coil includes a first biplanar coil assembly (50) for generating RF signals in an x-direction and a second biplanar coil assembly (80) for generating RF signals in a y-direction. The two biplanar coil assemblies each include a plurality of conductors (52, 82) along a first plane and a second plurality of conductors (54, 84) along a parallel second plane. The conductors extend parallel to the z-direction. Capacitors (56, 58, 94) are connected in series with each of the conductors in order to control the current flow such that the current flow in each plane is uniform across the plane. The ends of the electrical conductors are connected together (66, 88) such that the current flows are equal and opposite in the two planes. A radio frequency transmitter (136) transmits RF signals to the quadrature biplanar coil assembly. A digital receiver (140) receives and demodulates radio frequency signals from the quadrature coil assembly. The demodulated signals are reconstructed (144) into an image representation for display on a video monitor (146).

16 Claims, 5 Drawing figures

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	INT	Draw D
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☐ 8. Document ID: US 4691163 A      Relevance Rank: 80

L9: Entry 10 of 10

File: USPT

Sep 1, 1987

US-PAT-NO: 4691163

DOCUMENT-IDENTIFIER: US 4691163 A

TITLE: Dual frequency surface probes

DATE-ISSUED: September 1, 1987

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Blass; Judd	Haifa			IL
Keren; Hanan	Haifa			IL

## ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
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tuned between frequency settings and without being effected by the impedance variations that are caused by the different samples or patients.

14 Claims, 9 Drawing figures

Full	Title	Citation	Front	Relevance	Classification	Date	Reference			Claims	Pub	Draw
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☐ 9. Document ID: US 6002256 A Relevance Rank: 80

L9: Entry 7 of 10

File: USPT

Dec 14, 1999

US-PAT-NO: 6002256

DOCUMENT-IDENTIFIER: US 6002256 A

TITLE: RF magnetic field pulse generator

DATE-ISSUED: December 14, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Slade; Robert Andrew	Oxon			GB

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Oxford Instruments (UK) Ltd.	Oxford			GB	03

APPL-NO: 08/860234 [PALM]

DATE FILED: June 3, 1997

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
GB	9520357	October 5, 1995

PCT-DATA:

APPL-NO	DATE-FILED	PUB-NO	PUB-DATE	371-DATE
PCT/GB96/02427	October 3, 1996	WO97/13159	Apr 10, 1997	Jun 3, 1997

INT-CL-ISSUED: [06] G01V 3/02

INT-CL-CURRENT:

TYPE IPC	DATE
CIPS G01 R 33/36	20060101
CIPS G01 R 33/32	20060101

US-CL-ISSUED: 324/322; 324/318, 324/320

US-CL-CURRENT: 324/322; 324/318, 324/320

FIELD-OF-CLASSIFICATION-SEARCH: 324/300-319, 324/320-322, 315/501, 128/653, 323/282

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	None	Disc
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☐ 10. Document ID: US 4887039 A Relevance Rank: 80

L9: Entry 9 of 10

File: USPT

Dec 12, 1989

US-PAT-NO: 4887039

DOCUMENT-IDENTIFIER: US 4887039 A

TITLE: Method for providing multiple coaxial cable connections to a radio-frequency antenna without baluns

DATE-ISSUED: December 12, 1989

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Roemer; Peter B.	Schenectady	NY		
Edelstein; William A.	Schenectady	NY		
Hayes; Cecil E.	Wauwatosa	WI		
Eash; Matthew G.	Oconomowoc	WI		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
General Electric Company	Schenectady	NY			02

APPL-NO: 07/288668 [PALM]

DATE FILED: December 22, 1988

INT-CL-ISSUED: [04] G01R 33/20

INT-CL-CURRENT:

TYPE	IPC	DATE
CIPS	G01 R 33/32	20060101
CIPS	G01 R 33/34	20060101
CIPS	G01 R 33/36	20060101

US-CL-ISSUED: 324/322; 324/318

US-CL-CURRENT: 324/322; 324/318

FIELD-OF-CLASSIFICATION-SEARCH: 324/307, 324/318, 324/322, 343/742, 343/743, 343/744, 343/896

See application file for complete search history.

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<u>4680548</u>	July 1987	Edelstein et al.	324/318
<u>4692705</u>	September 1987	Hayes	324/318
<u>4740752</u>	April 1988	Arakawa et al.	324/318
<u>4752736</u>	June 1988	Arakawa et al.	324/318
<u>4782298</u>	November 1988	Arakawa et al.	324/318
<u>4820987</u>	April 1989	Mens	324/322

ART-UNIT: 265

PRIMARY-EXAMINER: Tokar; Michael J.

ASSISTANT-EXAMINER: O'Shea; Kevin D.

ATTY-AGENT-FIRM: Krauss; Geoffrey H. Davis, Jr.; James C. Snyder; Marvin

## ABSTRACT:

A method for providing plural coaxial cable connections, each to a different portion of a single radio-frequency (RF) antenna without requiring the use of isolation means at any RF connection, determines at least a point within the antenna having a desired common potential adjacent to each of the different portions to which one of the coaxial cable connections is to be made; Then forms a separate segment of each different portion which is located substantially at the common potential and is reactively separated from adjacent segments of the associated portion; and connects a shield conductor of an associated coaxial cable to the separate segment, while connecting a center conductor of that same associated coaxial cable to a selected one of the adjacent segments of that different portion.

20 Claims, 6 Drawing figures

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	Pub	Draw
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Term	Documents
(6 AND 8) .PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD.	10
(L8 AND L6 ) .PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD.	10

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☐ 1. Document ID: US 6766185 B2      Relevance Rank: 81

L3: Entry 11 of 19

File: USPT

Jul 20, 2004

US-PAT-NO: 6766185

DOCUMENT-IDENTIFIER: US 6766185 B2

TITLE: Transmission line techniques for MRI catheter coil miniaturization and tuning

DATE-ISSUED: July 20, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Scott; Greig C.	Palo Alto	CA		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE	CODE
The Board of Trustees of the Leland Stanford Junior University	Palo Alto	CA			02	

APPL-NO: 09/863797      [PALM]

DATE FILED: May 22, 2001

PARENT-CASE:

CROSS-REFERENCE TO RELATED APPLICATIONS This application is cross-referenced to and claims priority from U.S. Provisional application 60/206,458 filed May 22, 2000, which is hereby incorporated by reference.

INT-CL-ISSUED: [07] A61B 5/055

INT-CL-CURRENT:

TYPE	IPC	DATE
CIPN	<u>G01 R 33/32</u>	20060101
CIPN	<u>G01 R 33/36</u>	20060101
CIPS	<u>G01 R 33/28</u>	20060101
CIPN	<u>A61 B 5/055</u>	20060101

US-CL-ISSUED: 600/410; 600/423; 324/318, 324/322, 29/828

US-CL-CURRENT: 600/410; 29/828, 324/318, 324/322, 600/423

FIELD-OF-CLASSIFICATION-SEARCH: 600/422, 600/423, 600/410, 324/318, 324/322,

29/825, 29/828, 29/832

See application file for complete search history.

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<u>4881034</u>	November 1989	Kaufman et al.	324/318
<u>5347221</u>	September 1994	Rubinson	324/318
<u>5432451</u>	July 1995	McGill et al.	324/322
<u>6263229</u>	July 2001	Atalar et al.	600/423
<u>6437569</u>	August 2002	Minkoff et al.	324/318

ART-UNIT: 3737

PRIMARY-EXAMINER: Smith; Ruth S.

ATTY-AGENT-FIRM: Lumen Intellectual Property Services, Inc.

ABSTRACT:

A device and method with miniature and tunable MRI receiver coil for catheters is provided that can be used in minimally invasive procedures and intravascular imaging. An MRI receiver coil for catheter procedures is provided having an impedance matching element that includes at least one miniature transmission line cable which are interconnected to construct the impedance matching element. In a particular embodiment, the miniature transmission line cables are constructed to make an inductance matching element defining an inductance L. In another particular embodiment, the miniature transmission line cable is a capacitance matching element defining a capacitance C. The present invention provides a system and method that allows local fine-tuning with a higher signal-to-noise ratio. Transmission line cables also overcome the minimum size limits of fixed components. The shielded and balance techniques further reduce noise and improve safety.

34 Claims, 11 Drawing figures

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	FIGS	Draw D.
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☐ 2. Document ID: US 20020013525 A1 Relevance Rank: 81

L3: Entry 7 of 19

File: PGPB

Jan 31, 2002

PGPUB-DOCUMENT-NUMBER: 20020013525

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020013525 A1

TITLE: Transmission line techniques for MRI catheter coil miniaturization and tuning

<u>4752736</u>	June 1988	Arakawa et al.	324/318
<u>4782298</u>	November 1988	Arakawa et al.	324/318
<u>4820987</u>	April 1989	Mens	324/322

ART-UNIT: 265

PRIMARY-EXAMINER: Tokar; Michael J.

ASSISTANT-EXAMINER: O'Shea; Kevin D.

ATTY-AGENT-FIRM: Krauss; Geoffrey H. Davis, Jr.; James C. Snyder; Marvin

## ABSTRACT:

A method for providing plural coaxial cable connections, each to a different portion of a single radio-frequency (RF) antenna without requiring the use of isolation means at any RF connection, determines at least a point within the antenna having a desired common potential adjacent to each of the different portions to which one of the coaxial cable connections is to be made; Then forms a separate segment of each different portion which is located substantially at the common potential and is reactively separated from adjacent segments of the associated portion; and connects a shield conductor of an associated coaxial cable to the separate segment, while connecting a center conductor of that same associated coaxial cable to a selected one of the adjacent segments of that different portion.

20 Claims, 6 Drawing figures

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	ENC	Draw D
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☐ 4. Document ID: US 6930480 B1 Relevance Rank: 72

L3: Entry 9 of 19

File: USPT

Aug 16, 2005

US-PAT-NO: 6930480

DOCUMENT-IDENTIFIER: US 6930480 B1

TITLE: Head coil arrays for parallel imaging in magnetic resonance imaging

DATE-ISSUED: August 16, 2005

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fujita; Hiroyuki	Highland Heights	OH		
Petropoulos; Labros S.	Solon	OH		
Zou; Mark Xueming	Aurora	OH		
Chan; Pei H.	Aurora	OH		
Chu; Dashen	Hudson	OH		
Murphy-Boesch; Joseph	Aurora	OH		



Porter et al A 16-Element Phased-Array Head Coil MRM 40: 272-279, 1998.  
"Simultaneous Acquisition of Spatial Harmonics (SMASH): Fast Imaging with Radiofrequency Coil Arrays," Daniel K. Sodickson and Warren J. Manning, Magnetic Resonance in Medicine 38:591-603 (1997).  
"SENSE: Sensitivity Encoding for Fast MRI," Klaas P. Pruessmann, et al., Magnetic Resonance in Medicine 42:952-962 (1999).  
"A multicoil array designed for cardiac SMASH imaging," Mark A. Griswold, et al., Magnetic Resonance Materials in Physics, Biology and Medicine 10 (2000) 105-113.  
"SMASH imaging with an eight element multiplexed RF coil array," James A. Bankson, et al., Magnetic Resonance Materials in Physics, Biology and Medicine 10 (2000) 93-104.  
"An array that exploits phase for SENSE imaging," Joseph V. Hajnal, et al., International Society for Magnetic Resonance in Medicine, 8.sup.th Scientific Meeting & Exhibition, Proceedings, 1719, (2000).  
"A 4 channel head coil for SENSE imaging," D. J. Herlihy, et al., International Society for Magnetic Resonance in Medicine, 8.sup.th Scientific Meeting & Exhibition, Proceedings, 1394, (2000).  
"Planar Strip Array (PSA) for MRI," Ray F. Lee, et al., Magnetic Resonance in Medicine 45:673-683 (2001).  
"Concentric Coil Arrays for Spatial Encoding in Parallel MRI," Michael A. Ohliger, et al., International Society for Magnetic Resonance in Medicine, 9.sup.th Scientific Meeting & Exhibition, Proceedings, 21, (2001).  
"Specific Coil Design for SENSE: A Six-Element Cardiac Array," Markus Weiger, et al., Magnetic Resonance in Medicine 45:495-504 (2001).  
"SMASH and Sense: Experimental and Numerical Comparisons," Bruno Madore and Norbert J. Pelc, Magnetic Resonance in Medicine 45:1103-1111 (2001).  
"An efficient, highly homogeneous radiofrequency coil for whole-body NMR imaging at 1.5T," Cecil E. Hayes, et al., Journal of Magnetic Resonance 63:622-628 (1985).  
"A Four Channel Transceive Phased Array Head Coil for 3T," Scott B. King et al., International Society for Magnetic Resonance in Medicine, 9.sup.th Scientific Meeting & Exhibition, Proceedings, 12, (2001).

ART-UNIT: 2859

PRIMARY-EXAMINER: Shrivastav; Brij B.

ATTY-AGENT-FIRM: Della Penna; Michael A. Armstrong Teasdale LLP

ABSTRACT:

A partially parallel acquisition RF coil array for imaging a human head includes at least a first, a second and a third loop coil adapted to be arranged circumambiently about the lower portion of the head; and at least a forth, a fifth and a sixth coil adapted to be conformably arranged about the summit of the head. A partially parallel acquisition RF coil array for imaging a human head includes at least a first, a second, a third and a fourth loop coil adapted to be arranged circumambiently about the lower portion of the head; and at least a first and a second Figure-8 or saddle coil adapted to be conformably arranged about the summit of the head.

20 Claims, 25 Drawing figures

Full	Title	Creation	Front	Review	Classification	Date	Reference	Claims	Keywords	Drawings
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☐ 5. Document ID: US 20040236209 A1 Relevance Rank: 72

during a receive cycle thereof and decouple it from the port during a transmit cycle thereof. With its balloon inserted and inflated within a cavity of a patient, the probe allows the MR system to generate images and/or spectra of the region of interest using the MR signals received by the loop.

## CROSS-REFERENCE TO RELATED APPLICATION(S)

[0001] This application claims the benefit of U.S. Provisional Applications 60/429,257 and 60/381,727, titled System And Method Of Obtaining Images And Spectra Of Intracavity Structures Using 3.0 Tesla Magnetic Resonance Systems and 3.0 Tesla Endorectal Coil With Interface For Single Receiver And Phased Array MR Scanning Of The Prostate And Other Pelvic Anatomy, respectively, filed on Nov. 26, 2002, and May 16, 2002, respectively. These provisional applications have been assigned to the assignee of the invention disclosed below, and their teachings are incorporated into this document by reference.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KIND	Draw Ds
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☐ 6. Document ID: US 6975115 B1      Relevance Rank: 72

L3: Entry 8 of 19

File: USPT

Dec 13, 2005

US-PAT-NO: 6975115

DOCUMENT-IDENTIFIER: US 6975115 B1

TITLE: Coil arrays for parallel imaging in magnetic resonance imaging

DATE-ISSUED: December 13, 2005

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fujita; Hiroyuki	Highland Heights	OH		
Chan; Pei H.	Aurora	OH		
Chu; Dashaen	Hudson	OH		
Murphy-Boesch; Joseph	Aurora	OH		
Petropoulos; Labros S.	Solon	OH		
Zou; Mark Xueming	Aurora	OH		

## ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE	CODE
GE Medical Systems Global Technology Company, LLC	Waukesha	WI				02

APPL-NO: 10/164664      [PALM]

DATE FILED: June 7, 2002

## PARENT-CASE:

CROSS-REFERENCE TO RELATED APPLICATION This application claims the benefit of U.S. provisional patent application Ser. No. 60/296,885 filed Jun. 8, 2001.

INT-CL-ISSUED: [07] G01V 3/00

ART-UNIT: 2859

PRIMARY-EXAMINER: Shrivastav; Brij B.

ATTY-AGENT-FIRM: Horton, Esq.; Carl B. Armstrong Teasdale LLP

## ABSTRACT:

A partially parallel acquisition RF coil array for imaging a sample includes at least a first, a second and a third coil adapted to be arranged circumambiently about the sample and to provide both contrast data and spatial phase encoding data.

20 Claims, 21 Drawing figures

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KMC	Draw Ds
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☐ 7. Document ID: US 5280248 A      Relevance Rank: 71

L3: Entry 15 of 19

File: USPT

Jan 18, 1994

US-PAT-NO: 5280248

DOCUMENT-IDENTIFIER: US 5280248 A

TITLE: Biplanar RF coil for magnetic resonance imaging systems

DATE-ISSUED: January 18, 1994

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Zou; Xueming	Willoughby	OH		
Patrick; John L.	Chagrin Falls	OH		
Mastandrea; Nicholas J.	Bedford Hts.	OH		

## ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Picker International, Inc.	Highland Hts.	OH			02

APPL-NO: 07/919215      [PALM]

DATE FILED: July 24, 1992

INT-CL-ISSUED: [05] G01V 3/00

## INT-CL-CURRENT:

TYPE IPC	DATE
CIPS <u>G01 R 33/38</u>	20060101
CIPN <u>G01 R 33/422</u>	20060101
CIPN <u>G01 R 33/28</u>	20060101
CIPS <u>G01 R 33/385</u>	20060101
CIPS <u>G01 R 33/34</u>	20060101

signals to the quadrature biplanar coil assembly. A digital receiver (140) receives and demodulates radio frequency signals from the quadrature coil assembly. The demodulated signals are reconstructed (144) into an image representation for display on a video monitor (146).

16 Claims, 5 Drawing figures

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	FIGS	Drawings
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☐ 8. Document ID: US 4691163 A Relevance Rank: 69

L3: Entry 17 of 19

File: USPT

Sep 1, 1987

US-PAT-NO: 4691163

DOCUMENT-IDENTIFIER: US 4691163 A

TITLE: Dual frequency surface probes

DATE-ISSUED: September 1, 1987

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Blass; Judd	Haifa			IL
Keren; Hanan	Haifa			IL

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Elscint Ltd.	Haifa			IL	03

APPL-NO: 06/713689 [PALM]

DATE FILED: March 19, 1985

INT-CL-ISSUED: [04] G01R 33/08

INT-CL-CURRENT:

TYPE IPC	DATE
CIPS <u>G01 R 33/32</u>	20060101
CIPS <u>G01 R 33/36</u>	20060101
CIPS <u>G01 R 33/34</u>	20060101
CIPS <u>G01 R 33/341</u>	20060101

US-CL-ISSUED: 324/318; 324/309, 128/653

US-CL-CURRENT: 324/318; 324/309, 600/422

FIELD-OF-CLASSIFICATION-SEARCH: 324/307, 324/309-310, 324/313, 324/318, 324/322, 128/653

See application file for complete search history.

PRIOR-ART-DISCLOSED:

## U.S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<u>4075552</u>	February 1978	Troficante et al.	324/322
<u>4446431</u>	May 1984	McKay	324/322
<u>4450408</u>	May 1984	Tiemann	324/322 X

## FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	CLASS
1073652	February 1984	SU	324/307

ART-UNIT: 265

PRIMARY-EXAMINER: Tokar; Michael J.

ASSISTANT-EXAMINER: Jaworski; Francis J.

ATTY-AGENT-FIRM: Sandler &amp; Greenblum

## ABSTRACT:

A radio frequency surface probe for data acquisition in magnetic resonance systems. The probe is comprised of a plurality of inductors connected together with tuning capacitors in a balanced configuration. The configuration enables the probe to be impedance matched and to resonate at two separate frequencies without having to be tuned between frequency settings and without being effected by the impedance variations that are caused by the different samples or patients.

14 Claims, 9 Drawing figures

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw. Ds
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☐ 9. Document ID: US 20030183410 A1 Relevance Rank: 68

L3: Entry 5 of 19

File: PGPB

Oct 2, 2003

PGPUB-DOCUMENT-NUMBER: 20030183410

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030183410 A1

TITLE: Superconducting cable

PUBLICATION-DATE: October 2, 2003

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
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Sinha, Uday K.	Carrollton	GA	US
Hughey, Raburn L.	Franklin	GA	US
Tolbert, Jerry	Newnan	GA	US
Gouge, Michael J.	Oak Ridge	TN	US
Lue, J.W.	Oak Ridge	TN	US

APPL-NO: 10/363008 [PALM]

DATE FILED: June 9, 2003

## PCT-DATA:

DATE-FILED	APPL-NO	PUB-NO	PUB-DATE	371-DATE	102(E)-DATE
Sep 14, 2001	PCT/US01/28630				

INT-CL-PUBLISHED: [07] H01B 1/00, H02G 1/00

## INT-CL-CURRENT:

TYPE	IPC	DATE
CIPS	H01 B 12/06	20060101
CIPN	H01 B 7/04	20060101

US-CL-PUBLISHED: 174/68.1

US-CL-CURRENT: 174/68.1

REPRESENTATIVE-FIGURES: 1

## ABSTRACT:

On order to provide a flexible oxide superconducting cable which is reduced in AC loss, tape-shaped superconducting wires covered with a stabilizing metal are wound on a flexible former. The superconducting wires are preferably laid on the former at a bending strain of not more than 0.2%. In laying on the former, a number of type-shaped superconducting wires are laid on a core member in a side-by-side manner, to form a first layer. A prescribed number of tape-shaped superconducting wires are laid on top of the first layer in a side-by-side manner, to form a second layer. The former may be made of a metal, plastic, reinforced plastic, polymer, or a composite and provides flexibility to the superconducting wires and the cable formed therewith.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWD	Drawings
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☐ 10. Document ID: US 20050173149 A1 Relevance Rank: 68

L3: Entry 2 of 19

File: PGPB

Aug 11, 2005

PGPUB-DOCUMENT-NUMBER: 20050173149

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20050173149 A1

TITLE: Triaxial superconducting cable and termination therefor

Full	Title	Citation	Print	Review	Classification	Date	Reference	Sequences	Attachments	Claims	MMC	Draw. 0
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☐ 11. Document ID: US 2896148 A Relevance Rank: 68

L3: Entry 19 of 19

File: USOC

Jul 21, 1959

US-PAT-NO: 2896148

DOCUMENT-IDENTIFIER: US 2896148 A

TITLE: Generator regulated power supply equipment

DATE-ISSUED: July 21, 1959

INT-CL-CURRENT:

TYPE	IPC	DATE
CIPS	H04 B 3/44	20060101
CIPS	H04 B 3/02	20060101

US-CL-CURRENT: 322/24; 322/64, 322/73, 327/540

DOCUMENT TEXT:

July 21, 1959 V. J. TERRY E-i AL 2,896,148 GENERATOR REGULATED FOWER SUPPLY EQUIPL.IENT Filed Nov. 1, 1954 4 Sheets@Sheet I 7 @CC2@ A'113 GAI c 6A +0- 4uto BI + -- OF C/ S4 -0 r Sif,/f 4S 1,82 Stw7,s- ,A -oc4 - 0 0< Inventors V J. TERRY- R. KE LL Y- P S,KELLY-W.QCRAGG By p4+ Attorney

July'21, 1959 V. J. TERRY' ET AL 2,896,148 GENERATOR REGULATEB POWER SUPPLY EQUIPMENT Fil,ed Nov. 1, 1954 4 She6ts-Sheet 2 2 T DCI 7 IOSD @/#C zc //C Y/,C/ @IC2 c &2 PC T R42 ICI ,IC2 R44 Rild R45 --ANVOA'-- In ve nt or s VJ. TE RRY- R. K ELLY- PS KELLY-'W OCRAGG A t t o r n e y

July 21, 1959 V. J. TERRY E AL 2,896,148 GENERATOR REGULATED POWER SUPPLY EQUIPMENT 4 She ets- She et 3 Filed Nov. 1, 1954 2 V2 . 'VOV- V 200 V 180 160 @io 120 Ilel @o ?xl@ ,Eb = 80 /0 co 0 0 4 x 30 90 /0 @le slpngth I'n Oauss - - S117 017tr0lwd 'gle C g - l-@19 r Dou6le Conllvl wo'ys #t&k C017@,VIIL-d hy 1117e cillrent - 2100 7' 9. s4,,oDl1i,,olwlth constant wrpentf @io at 1746 ;n,4. DoLlhi- Control wogs - - -/00 Wd 'g. as heklr - 21.@o 7- Wolq as he@'' - 800 7'4yt 0 2@5 26i7-S 2?g 212- 1 Z/@e ,,PL-nt - m Inventors V R Ry@ .,t TE - R.KELLY - PS. KELLY- W-D- CRAGG A t t o r n e y

July 21, 1959 V. J. TERRY ET AL 21896,148 DENERATOR REGULATED POWER SUPPLY EQ-UIPMENT Filed Nov. 1, 1954 4 thoets-Sheet 4 pp Phi ,D,D Fl@. 7 -Y N S N Fl@. g A/ N IV Fl /0 BB /V v q. N N 2 s inventorz V J. TE RRY. R. KELLY- P S. KE LLY- W. D.CRAGG By(? Attorney

2 @ 8 9 6 7 1 4 8 United States Patent Office Patented July 21, 1959 2,896,148 GENERATOR REGULATED POWER SUPPLY EQUIPMENT 5 Victor John Terry, Richard Kelly, Patrick Stanley Kelly, and William Donald Cragg, London, England, assign- ors to International Standard Electric Corpokation, New York, N.Y. Application November 1, 1954, Serial No. 466,172 10 Claims priority, application Great Brittin November 3, 1953 3 Claims. (Cl. 322-24) 15 This invention relates to regulated electric power supply equipment. According to the invention, there is provided regulated electric power supply equipment which comprises mag- netically-controlled means for regulating the supply of 20 power from the said equipment to a load, a

☐ 12. Document ID: US 6469636 B1 Relevance Rank: 68

L3: Entry 12 of 19

File: USPT

Oct 22, 2002

US-PAT-NO: 6469636

DOCUMENT-IDENTIFIER: US 6469636 B1

TITLE: High-power well logging method and apparatus

DATE-ISSUED: October 22, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Baird; Gary K.	Richmond	TX		
Dodge; Carl	Houston	TX		
Henderson; Thomas E.	Katy	TX		
Velasquez; Francisco	Katy	TX		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Halliburton Energy Services, Inc.	Houston	TX			02

APPL-NO: 09/437594 [PALM]

DATE FILED: November 10, 1999

PARENT-CASE:

"This application is a continuation of provisional application No. 60/110,560 filed Dec. 2, 1998 and provisional application No. 60/153,163 filed Sep. 9, 1999."

INT-CL-ISSUED: [07] G01V 3/00

INT-CL-CURRENT:

TYPE	IPC	DATE
CIPS	<u>G01 V 11/00</u>	20060101
CIPS	<u>E21 B 47/12</u>	20060101
CIPS	<u>E21 B 41/00</u>	20060101

US-CL-ISSUED: 340/854.9; 340/853.1, 166/66, 333/17.2, 333/243

US-CL-CURRENT: 340/854.9; 166/66, 333/17.2, 333/243, 340/853.1 .

FIELD-OF-CLASSIFICATION-SEARCH: 340/853.7, 340/853.1, 340/854.9, 340/854.7, 340/855.2, 166/66, 250/253, 250/263, 333/17.2, 333/243, 324/539  
See application file for complete search history.

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<u>4399400</u>	August 1983	Rockwell et al.	324/51



<u>4523804</u>	June 1985	Thompson	350/96.23
<u>4578645</u>	March 1986	Hoehn, Jr.	324/338
<u>4583093</u>	April 1986	Beals	340/857
<u>4723054</u>	February 1988	Billet	174/74R
<u>4841259</u>	June 1989	Mayer	333/17.2
<u>4891641</u>	January 1990	Gard et al.	340/857
<u>5140318</u>	August 1992	Stiner	340/854.8
<u>5483232</u>	January 1996	Clark, Jr. et al.	340/853.1
<u>5495547</u>	February 1996	Rafie et al.	385/101
<u>5504479</u>	April 1996	Doyle et al.	340/854.9

ART-UNIT: 2735

PRIMARY-EXAMINER: Horabik; Michael

ASSISTANT-EXAMINER: Wong; Albert K.

ATTY-AGENT-FIRM: Conley, Rose &amp; Tayon, P.C.

## ABSTRACT:

A system and method is described for safely and economically providing up to 1800 watts to downhole equipment over existing logging cables. In one embodiment, the system includes a standard multiconductor logging cable which supports orthogonal signal transmission modes on circumferentially spaced insulated conductors. A high-power power source on the surface is coupled to the insulated conductors in the cable to drive a power signal on the lowest impedance signal transmission mode. Bearing in mind that high-power electrical currents can present a safety hazard, system safety may be enhanced by the addition of a reliable current imbalance detector configured to shut down all power sources when currents in the insulated conductors don't add up to zero. The system may further include multiple power sources operating on different independent signal transmission modes, and may also include multiple telemetry channels which share the power transmission modes via frequency multiplexing. The system may also deliver computer-regulated downhole power voltages, and the computer may be further configured to customize signal waveforms and power allocation on the various independent signal transmission modes to maximize the power capacity of the logging cable subject to its maximum voltage rating.

10 Claims, 9 Drawing figures

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw D
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☐ 13. Document ID: US 6914538 B2 Relevance Rank: 68

L3: Entry 10 of 19

File: USPT

Jul 5, 2005

US-PAT-NO: 6914538

DOCUMENT-IDENTIFIER: US 6914538 B2

<u>4841259</u>	June 1989	Mayer	
<u>4891641</u>	January 1990	Gard et al.	
<u>5140318</u>	August 1992	Stiner	
<u>5483232</u>	January 1996	Clark, Jr. et al.	
<u>5495547</u>	February 1996	Rafie et al.	
<u>5504479</u>	April 1996	Doyle et al.	
<u>6469636</u>	October 2002	Baird et al.	340/854.9

## OTHER PUBLICATIONS

Supplementary Partial European Search Report for European Patent Application No. EP 99 96 5006, dated Apr. 10, 2003, 2 p.  
PCT Search Report dated Apr. 4, 2000 (9 p.) for PCT Application Serial No. PCT/US99/27417 filed Nov. 19, 1999.

ART-UNIT: 2635

PRIMARY-EXAMINER: Wong; Albert K.

ATTY-AGENT-FIRM: Conley Rose, P.C.

## ABSTRACT:

A system and method for downhole power delivery. In one embodiment, the system delivers computer-regulated downhole power voltages, and may be configured to customize signal waveforms and power allocation on the various independent signal transmission modes to maximize the power capacity of the logging cable subject to its maximum voltage rating. In one embodiment, the system includes a standard multiconductor logging cable which supports orthogonal signal transmission modes on circumferentially spaced insulated conductors. A high-power power source on the surface is coupled to the insulated conductors in the cable to drive a power signal on the lowest impedance signal transmission mode. The system may further include multiple power sources operating on different independent signal transmission modes, and may also include multiple telemetry channels which share the power transmission modes via frequency multiplexing.

18 Claims, 9 Drawing figures

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KINC	Draw D
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☐ 14. Document ID: US 20030085816 A1 Relevance Rank: 68

L3: Entry 6 of 19

File: PGPB

May 8, 2003

PGPUB-DOCUMENT-NUMBER: 20030085816

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030085816 A1

TITLE: High-power well logging method and apparatus

PUBLICATION-DATE: May 8, 2003

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	WWW	Drawings
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☐ 15. Document ID: US 20060164089 A1      Relevance Rank: 67

L3: Entry 1 of 19

File: PGPB.

Jul 27, 2006

PGPUB-DOCUMENT-NUMBER: 20060164089  
 PGPUB-FILING-TYPE:  
 DOCUMENT-IDENTIFIER: US 20060164089 A1

TITLE: Magnetic resonance imaging receive circuit

PUBLICATION-DATE: July 27, 2006

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Gross; Patrick	London		GB

APPL-NO: 10/511957    [PALM]  
 DATE FILED: April 29, 2003

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	DOC-ID	APPL-DATE
GB	0209756.6	2002GB-0209756.6	April 29, 2002

PCT-DATA:

DATE-FILED	APPL-NO	PUB-NO	PUB-DATE	371-DATE
Apr 29, 2003	PCT/GB03/01892			Jul 19, 2005

INT-CL-PUBLISHED:

TYPE	IPC	DATE	IPC-OLD
IPCP	G01V3/00	20060101	G01V003/00

INT-CL-CURRENT:

TYPE	IPC	DATE
CIPP	<u>G01 V 3/00</u>	20060101

US-CL-PUBLISHED: 324/322

US-CL-CURRENT: 324/322

ABSTRACT:

A magnetic resonance imaging receive circuit, for use e.g. within the body of a patient during an MR imaging procedure, includes a balanced MR coil (50) connected to balanced matching and decoupling circuitry (110, 120). Signal transfer passes along two micro-coaxial cables (52, 54) to signal combination circuitry (300) with common mode rejection. Signals then pass along a further coaxial cable (82), to a receiver. The coil (50) may be incorporated into an endoscope or catheter probe, so providing detailed MR imaging of the treatment area.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	NMC	Draw
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☐ 16. Document ID: US 6002256 A      Relevance Rank: 65

L3: Entry 14 of 19

File: USPT

Dec 14, 1999

US-PAT-NO: 6002256

DOCUMENT-IDENTIFIER: US 6002256 A

TITLE: RF magnetic field pulse generator

DATE-ISSUED: December 14, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Slade; Robert Andrew	Oxon			GB

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Oxford Instruments (UK) Ltd.	Oxford			GB	03

APPL-NO: 08/860234      [PALM]

DATE FILED: June 3, 1997

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
GB	9520357	October 5, 1995

PCT-DATA:

APPL-NO	DATE-FILED	PUB-NO	PUB-DATE	371-DATE
PCT/GB96/02427	October 3, 1996	WO97/13159	Apr 10, 1997	Jun 3, 1997

INT-CL-ISSUED: [06] G01V 3/02

INT-CL-CURRENT:

TYPE	IPC	DATE
CIPS	G01 R 33/36	20060101
CIPS	G01 R 33/32	20060101

US-CL-ISSUED: 324/322; 324/318, 324/320

US-CL-CURRENT: 324/322; 324/318, 324/320

FIELD-OF-CLASSIFICATION-SEARCH: 324/300-319, 324/320-322, 315/501, 128/653, 323/282

See application file for complete search history.

PRIOR-ART-DISCLOSED:

☐ 17. Document ID: US 20060164089 A1, WO 2003093851 A1, AU 2003233874 A1, EP 1499907 A1 Relevance Rank: 63

L3: Entry 18 of 19

File: DWPI

Jul 27, 2006

DERWENT-ACC-NO: 2003-903723

DERWENT-WEEK: 200650

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TITLE: Magnetic resonance image receive circuit for medical diagnosis, has cables transmitting control to decoupling circuitry and differential signals to one portion when circuit is in decoupled mode and receive mode, respectively

INVENTOR: GROSS, P

PATENT-ASSIGNEE: IMPERIAL COLLEGE INNOVATIONS LTD (IMCON), IMPERIAL COLLEGE INNOVATIONS LTD (UNLO), GROSS P (GROSI)

PRIORITY-DATA: 2002GB-0009756 (April 29, 2002)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<u>US 20060164089 A1</u>	July 27, 2006		000	G01V003/00
<u>WO 2003093851 A1</u>	November 13, 2003	E	023	G01R033/28
<u>AU 2003233874 A1</u>	November 17, 2003		000	G01R033/28
<u>EP 1499907 A1</u>	January 26, 2005	E	000	G01R033/28

DESIGNATED-STATES: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR

## APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
US20060164089A1	April 29, 2003	2003WO-GB01892	
US20060164089A1	July 19, 2005	2005US-0511957	
WO2003093851A1	April 29, 2003	2003WO-GB01892	
AU2003233874A1	April 29, 2003	2003AU-0233874	
AU2003233874A1		WO2003093851	Based on
EP 1499907A1	April 29, 2003	2003EP-0727636	
EP 1499907A1	April 29, 2003	2003WO-GB01892	
EP 1499907A1		WO2003093851	Based on

INT-CL (IPC): G01R 33/28; G01R 33/36; G01V 3/00

ABSTRACTED-PUB-NO: WO2003093851A

BASIC-ABSTRACT:

NOVELTY - The circuit has two portions (200, 300) one with a decoupling circuitry

adjacent to an antenna (50) and another with a control circuitry causing the decoupling circuitry to switch the circuit between receive and decoupled modes. Balanced cables (82) transmitting a DC control to the decoupling circuitry and differential signals to the latter portion when the circuit is in the decoupled mode and the receive mode, respectively.

USE - Used in medical diagnosis.

ADVANTAGE - The cables can be easy swapped, and circuit is capable of being operated safely even when large DC voltage is present on the line. The antenna and the matching circuitry experiences only one voltage. One portion of the circuit has matching circuitry that provides complete impedance between the antenna and the cables, hence cable-length becomes immaterial.

DESCRIPTION OF DRAWING(S) - The drawing shows the magnetic resonance imaging receive circuit.

RF antenna 50

Coaxial cable (100, 300) Portions 82

Transmission line 200

Matching section 310

ABSTRACTED-PUB-NO: WO2003093851A

EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.4/6

DERWENT-CLASS: S01 W02

EPI-CODES: S01-E01; S01-E02A; W02-B08D1; W02-B08E1; W02-B10;

Full	Title	Creation	Print	Review	Classification	Date	Reference			Claims	EMC	Draw U.
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☐ 18. Document ID: US 6061589 A      Relevance Rank: 63

L3: Entry 13 of 19

File: USPT

May 9, 2000

US-PAT-NO: 6061589

DOCUMENT-IDENTIFIER: US 6061589 A

**\*\* See image for Certificate of Correction \*\***

TITLE: Microwave antenna for cancer detection system

DATE-ISSUED: May 9, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bridges; Jack E.	Park Ridge	IL		
Taflov; Allen	Wilmette	IL		
Hagness; Susan C.	Chicago	IL		

ATTY-AGENT-FIRM: McEachran, Jambor, Keating, Bock &amp; Kurtz

## ABSTRACT:

A microwave antenna for use in a system for detecting an incipient tumor in living tissue such as that of a human breast in accordance with differences in relative dielectric characteristics. In the system a generator produces a non-ionizing electromagnetic input wave of preselected frequency, usually exceeding three gigahertz, and that input wave is used to irradiate a discrete volume in the living tissue with a non-ionizing electromagnetic wave. The illumination location is shifted in a predetermined scanning pattern. Scattered signal returns from the living tissue are collected and processed to segregate skin tissue scatter and to develop a segregated backscatter or return wave signal; that segregated signal, in turn, is employed to detect any anomaly indicative of the presence of a tumor or other abnormality in the scanned living tissue. The present invention is directed to a composite Maltese Cross or bow-tie antenna construction employed to irradiate the living tissue and to collect backscatter or other scatter returns.

13 Claims, 28 Drawing figures

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	FIG	Draw D
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☐ 19. Document ID: US 20050100866 A1 Relevance Rank: 63

L3: Entry 3 of 19

File: PGPB

May 12, 2005

PGPUB-DOCUMENT-NUMBER: 20050100866

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20050100866 A1

TITLE: Radiation probe and detecting tooth decay

PUBLICATION-DATE: May 12, 2005

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Arnone, Donald Dominic	Cambridge		GB
Cibsla, Craig Michael	Cambridge		GB

## ASSIGNEE-INFORMATION:

NAME	CITY	STATE	COUNTRY	TYPE CODE
TeraView Limited				03

APPL-NO: 11/011703 [PALM]

DATE FILED: December 14, 2004

## FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	DOC-ID	APPL-DATE
GB	9917407.0	1999GB-9917407.0	July 23, 1999

INT-CL-PUBLISHED: [07] A61C 5/00, A61C 3/00, A61B 5/00

## INT-CL-CURRENT:

TYPE	IPC	DATE
CIPN	A61 B 1/04	20060101
CIPS	A61 B 6/14	20060101
CIPS	G01 N 21/59	20060101
CIPS	A61 B 5/00	20060101
CIPS	G01 N 21/49	20060101
CIPS	G01 N 21/31	20060101
CIPS	G01 N 21/35	20060101
CIPS	G01 N 21/47	20060101

US-CL-PUBLISHED: 433/215; 433/029, 600/340

US-CL-CURRENT: 433/215; 433/29, 600/340

REPRESENTATIVE-FIGURES: 1

## ABSTRACT:

A probe assembly for examining a sample (1), the assembly comprising a probe (13), communication means (9, 11) for communicating signals to and/or from the probe (13), an emitter (9) for emitting radiation to irradiate the sample (1) and an electro-magnetic radiation detector (13) for detecting radiation which is transmitted or reflected from the sample (1). The emitter (9) comprises a frequency conversion member which emits radiation in response to being irradiated with input radiation which has a different frequency to that of the emitted radiation. At least one of the emitter or detector is located in the probe. The probe is particularly for use as an endoscope or for imaging teeth. The invention also extends to a method of imaging teeth, and apparatus for imaging diseased teeth, for example, teeth with caries or suffering from periodontal disease.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	DOC	Draw D
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Clear

Generate Collection

Print

Fwd Refs

Bkwd Refs

Generate OACS

Term	Documents
CABLE	986685
CABLES	355308
BALANC\$4	0
BALANC	5977
BALANCA	83
BALANCABLE	21
BALANCABLY	6
BALANCAD	3



BALANCAE	2
BALANCAI	1
(L2 AND (BALANC\$4 NEAR CABLE) ) .PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	19

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 PALM IntranetApplication Number  

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**IDS Flag Clearance for Application 10511957**

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**IDS  
Information**

Content	Mailroom Date	Entry Number	IDS Review	Last Modified	Reviewer
M844	2005-07-19	11	Y <input checked="" type="checkbox"/>	2006-05-20 14:21:46.0	BShrivastav
<input type="button" value="Update"/>					